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10/693,004	10/24/2003	Galen C. Hunt	MS1-1776US	9356

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EXAMINER
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ART UNIT	PAPER NUMBER
2167	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _12 June 2008_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-40_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-40_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _See Continuation Sheet_.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____

5)☐ Notice of Informal Patent Application

6)☐ Other: _____

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :2/28/08, 4/24/08, 6/12/08, 7/31/08, 8/26/08.

DETAILED ACTION

Remarks

1.   Examiner acknowledges applicants' response, including arguments and amendments, dated 12 June, 2008.

2.   Examiner acknowledges the amendments made to the claims to overcome the previously made rejection under 35 U.S.C. § 101, and withdraws that rejection.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 40 are rejected under 35 U.S.C. § 102(b) as being anticipated by Caswell, et al., U.S. Pat. No. 6,336,138 (hereafter, "Caswell").

As to **Claim 1**, Caswell discloses: One or more computer readable storage media having stored thereon a plurality of instructions that implement a schema, the schema comprising:

at least one definition of entities to be implemented in a distributed-computing

system (col. 5, lines 49 – 52, referring to defining nodes of various types, and

generally to the creation of network service models); and

at least one relationship that identifies links between the entities to be

implemented in the distributed-computing system, such that the schema is used

by a development tool and a deployment tool to implement the definition and the

relationship (col. 5, lines 49 – 52, referring to defining network links).

As to **Claim 2**, Caswell discloses: the schema being further used by a

management tool (col. 3, line 66 through col. 4, line 3, referring to the system

being used to support management functions).

As to **Claim 3**, Caswell discloses: the schema allowing a user of the

development tool to identify desired operational intentions (col. 5, lines 57 – 62,

referring to the "health" or state of nodes).

As to **Claim 4**, Caswell discloses: the at least one definition includes a resource

definition (col. 5, lines 57 – 62, referring to the "health" or state of nodes), a

system definition (col. 6, lines 53 – 59, referring to application-specific attributes),

and an endpoint definition (col. 19, lines 11 – 31, referring to the detection of

packet attributes as they travel between nodes).

As to **Claim 5**, Caswell discloses: the at least one definition including a resource definition that describes specifies an application runtime behavior associated with a system (col. 5, lines 57 – 62, referring to the "health" or state of nodes; and col. 6, lines 2 – 9, referring to specific features or parameters that define the individual entities).

As to **Claim 6**, Caswell discloses: the at least one definition includes a system definition that describes a portion of an application deployed in the distributed-computing system (col. 6, lines 53 – 59, referring to application-specific attributes).

As to **Claim 7**, Caswell discloses: the at least one definition including an endpoint definition that describes communication information associated with a system (col. 19, lines 11 – 31, referring to the detection of packet attributes as they travel between nodes).

As to **Claim 8**, Caswell discloses: the at least one relationship includes a containment relationship (col. 5, lines 49 – 52, referring to defining nodes of various types), a delegation relationship (col. 5, lines 49 – 52, referring to defining nodes of various types), a connections relationship (col. 19, lines 11 – 31, referring to the detection of packet attributes as they travel between nodes), a hosting relationship (col. 5, lines 53 – 57, referring to dependencies among

nodes) and a reference relationship (col. 8, lines 14 – 30, referring to hierarchical relationships amongst nodes).

As to **Claim 9**, Caswell discloses: the at least one relationship including a containment relationship that describes the ability of a particular definition to contain members of other definitions (col. 5, lines 49 – 52, referring to defining nodes of various types).

As to **Claim 10**, Caswell discloses: the at least one relationship includes a delegation relationship that exposes members contained in a particular definition (col. 5, lines 49 – 52, referring to defining nodes of various types).

As to **Claim 11**, Caswell discloses: the at least one relationship including a connections relationship that identifies available communication interactions between a plurality of definitions (col. 19, lines 11 – 31, referring to the detection of packet attributes as they travel between nodes).

As to **Claim 12**, Caswell discloses: the at least one relationship including a hosting relationship that describes dependencies between a plurality of definitions (col. 5, lines 53 – 57, referring to dependencies among nodes).

As to **Claim 13**, Caswell discloses: the at least one relationship includes a reference relationship that identifies ordering relationships between a plurality of definitions (col. 8, lines 14 – 30, referring to hierarchical relationships amongst nodes).

As to **Claim 14**, Caswell discloses: an abstract portion associated with templates for distributed-applications (col. 5, lines 37 – 44, referring to template-driven modeling of a hypothetical network) and a concrete portion associated with particular implementations of distributed-applications (col. 7, lines 60 – 65, referring to a service model instance which describes network elements that actually exist in a particular network).

As to **Claim 15**, Caswell discloses: the communication of settings across the plurality of relationships (col. 16, lines 20 – 22, referring to settings being derived and communicated).

As to **Claim 16**, Caswell discloses: the communication of application runtime behavioral information across the plurality of relationships (col. 19, lines 43 - 47, referring to the communication of entity "health").

As to **Claim 17**, Caswell discloses: one or more computer readable storage media having stored thereon a plurality of instructions that implement a schema, the schema comprising:

at least one system definition of a portion of an application associated with a distributed-computing system (col. 6, lines 53 – 59, referring to application-specific attributes);

at least one resource definition that specifies application runtime behavior associated with the system (col. 5, lines 57 – 62, referring to the "health" or state of nodes; and col. 6, lines 53 – 59, referring to application-specific attributes); and

at least one endpoint definition of communication information associated with the system (col. 19, lines 11 – 31, referring to the detection of packet attributes as they travel between nodes).

As to **Claim 18**, Caswell discloses: at least one relationship that identifies links between entities in the distributed-computing system (col. 5, lines 49 – 52, referring to defining network links).

As to **Claim 19**, Caswell discloses: a containment relationship that describes the ability of a particular definition to contain members of other definitions (col. 5, lines 49 – 52, referring to defining nodes of various types).

As to **Claim 20**, Caswell discloses: a communication relationship that identifies available communication interactions between a plurality of definitions (col. 5, lines 49 – 52, referring to defining nodes of various types).

As to **Claim 21**, Caswell discloses: the schema being used by any of: a development tool, a deployment tool, or a management tool (col. 3, line 66 through col. 4, line 3, referring to the system being used to support management functions).

As to **Claim 22**, Caswell discloses: the schema models a target system on which the application will be installed (col. 7, lines 60 – 65, referring to a service model instance which describes network elements that actually exist in a particular network).

As to **Claim 23**, Caswell discloses: One or more computer readable storage media having stored thereon a plurality of instructions that when executed by a computer implement a design tool, the design tool comprising:
a system definition model to enable defining abstractly the specifications of distributed-computing systems and distributed-applications (col. 5, lines 37 – 44, referring to template-driven modeling of a network); and

a schema to dictate how functional operations within the system definition model
are to be specified (col. 5, lines 49 – 52, referring to defining nodes of various
types).

As to **Claim 24**, Caswell discloses: the design tool being a distributed-application
development tool (col. 6, lines 53 – 59, referring to application-specific tools).

As to **Claim 25**, Caswell discloses: the design tool being a distributed-application
deployment tool (col. 6, lines 53 – 59, referring to application-specific tools).

As to **Claim 26**, Caswell discloses: the design tool is a distributed-application
management tool (col. 3, line 66 through col. 4, line 3, referring to the system
being used to support management functions).

As to **Claim 27**, Caswell discloses: the distributed-applications being scale-
invariant (col. 9, lines 32 – 46, referring to modeling a network regardless of
geographic scope).

As to **Claim 28**, Caswell discloses: a data structure stored on one or more
computer-readable media that is instantiated in accordance with a schema, the
schema comprising:

at least one system definition of a component of a distributed-application (col. 5, lines 49 – 52, referring to defining nodes of various types);

at least one resource definition of application runtime behavior associated with the component (col. 5, lines 57 – 62, referring to the "health" or state of nodes);

at least one endpoint definition of communication information associated with the component (col. 19, lines 11 – 31, referring to the detection of packet attributes as they travel between nodes);

at least one containment relationship specifying an ability of a particular definition to contain members of other definitions (col. 5, lines 49 – 52, referring to defining nodes of various types);

at least one delegation relationship that exposes members contained in the particular definition (col. 5, lines 49 – 52, referring to defining nodes of various types);

at least one communication relationship that specifies available communication interactions between a plurality of definitions (col. 19, lines 11 – 31, referring to the detection of packet attributes as they travel between nodes);

at least one hosting relationship that specifies dependencies between the plurality of definitions (col. 5, lines 53 – 57, referring to dependencies among nodes); and

at least one reference relationship that specifies ordering relationships between the plurality of definitions (col. 8, lines 14 – 30, referring to hierarchical relationships amongst nodes).

As to **Claim 29**, Caswell discloses: the distributed-application being scale-invariant (col. 9, lines 32 – 46, referring to modeling a network regardless of geographic scope).

As to **Claim 30**, Caswell discloses: the schema being accessible by an application development tool and an application deployment tool (col. 6, lines 53 – 59, referring to application-specific tools).

As to **Claim 31**, Caswell discloses: the schema being accessible by: an application deployment tool (col. 6, lines 53 – 59, referring to application-specific tools) and an application management tool (col. 3, line 66 through col. 4, line 3, referring to the system being used to support management functions).

As to **Claim 32**, Caswell discloses: the schema being accessible by: an application development tool; an application deployment tool (col. 6, lines 53 – 59, referring to application-specific tools); and an application management tool (col. 3, line 66 through col. 4, line 3, referring to the system being used to support management functions).

As to **Claim 33**, Caswell discloses: a method comprising: creating a data structure in accordance with a schema, the schema defining:

at least one definition of entities in a distributed-computing system (col. 5, lines 49 – 52, referring to defining nodes of various types),

at least one containment relationship specifying the ability of a particular definition to contain members of other definitions (col. 5, lines 49 – 52, referring to defining nodes of various types),

at least one delegation relationship that exposes members contained in the particular definition (col. 5, lines 49 – 52, referring to defining nodes of various types),

at least one communication relationship that specifies available communication interactions between a plurality of definitions (col. 19, lines 11 – 31, referring to the detection of packet attributes as they travel between nodes),

at least one hosting relationship that specifies dependencies between the plurality of definitions (col. 5, lines 53 – 57, referring to dependencies among nodes),

at least one reference relationship that specifies ordering relationships between the plurality of definitions (col. 8, lines 14 – 30, referring to hierarchical relationships amongst nodes); and

populating the data structure (col. 7, lines 36 – 50, referring to generating a model of a network based on discovered metrics and attributes).

As to **Claim 34**, Caswell discloses: One or more computer readable storage media having stored thereon a plurality of instructions that, when executed by a processor, cause the processor to perform a method, the method comprising: loading a definition of entities in a distributed computing-system (col. 5, lines 49 – 52, referring to defining nodes of various types); and loading a relationship that specifies communication links between the entities in the distributed-computing system, such that the definition and the relationship are used to develop and deploy the distributed-computing system (col. 5, lines 49 – 52, referring to defining network links).

As to **Claim 35**, Caswell discloses: the definition and the relationship being further used during management of the distributed-computing system (col. 3, line 66 through col. 4, line 3, referring to the system being used to support management functions).

As to **Claim 36**, Caswell discloses: the definition including a resource definition (col. 5, lines 57 – 62, referring to the "health" or state of nodes), a system definition (col. 6, lines 53 – 59, referring to application-specific attributes) and an endpoint definition (col. 19, lines 11 – 31, referring to the detection of packet attributes as they travel between nodes).

As to **Claim 37**, Caswell discloses: the relationship including a containment relationship (col. 5, lines 49 – 52, referring to defining nodes of various types), a delegation relationship (col. 5, lines 49 – 52, referring to defining nodes of various types), a communication relationship (col. 19, lines 11 – 31, referring to the detection of packet attributes as they travel between nodes), a hosting relationship (col. 5, lines 53 – 57, referring to dependencies among nodes) and a reference relationship (col. 8, lines 14 – 30, referring to hierarchical relationships amongst nodes).

As to **Claim 38**, Caswell discloses: a method comprising:

loading a definition of entities in a distributed-computing system (col. 5, lines 49 – 52, referring to defining nodes of various types); and

loading a relationship that specifies communication links between the entities in the distributed-computing system (col. 5, lines 49 – 52, referring to defining network links), such that the definition and the relationship are used during development, deployment and management of the distributed-computing system (col. 3, line 66 through col. 4, line 3, referring to the system being used to support management functions).

As to **Claim 39**, Caswell discloses: the definition including a resource definition (col. 5, lines 57 – 62, referring to the "health" or state of nodes), a system definition (col. 6, lines 53 – 59, referring to application-specific attributes) and an

endpoint definition (col. 19, lines 11 – 31, referring to the detection of packet

attributes as they travel between nodes).

As to **Claim 40**, Caswell discloses: the relationship including a containment

relationship (col. 5, lines 49 – 52, referring to defining nodes of various types), a

delegation relationship (col. 5, lines 49 – 52, referring to defining nodes of

various types), a communication relationship (col. 19, lines 11 – 31, referring to

the detection of packet attributes as they travel between nodes), a hosting

relationship (col. 5, lines 53 – 57, referring to dependencies among nodes) and a

reference relationship (col. 8, lines 14 – 30, referring to hierarchical relationships

amongst nodes).

Response to Arguments

4.   Applicant's arguments filed 12 June, 2008, have been fully considered but they

are not persuasive. Accordingly, THIS ACTION IS MADE FINAL.

With regards to applicants' arguments for claim 1, examiner respectfully

disagrees. Applicants specifically argue that Caswell fails to disclose a distributed-

computing system. Firstly, examiner notes that there is no reference to a distributed-

computing system in the specification. It is assumed that the hyphenated version of this

phrase is intended to denote the specialized definition that applicant supplies at page 16

of the specification, which reads, in part, "A system is a set of related software and/or

hardware resources that can work together to accomplish a common function." It is noted that neither the phrase "distributed-system", nor "distributed system" appear in this definition. One example of a system supplied later in that same paragraph [0044], is "distributed applications such as may be used for web services". Caswell, at col. 1, lines 6 – 12, recites the technical background of the disclosure, which relates to linking components of a service… and to diagnose problems associated with the service. This classification of the disclosure of Caswell falls neatly into the definition of distributed-computing systems as given by the specification of the instant application. Therefore, the system of Caswell does anticipate the "distributed-computing system" of the instant application.

Further, applicants argue that Caswell fails to disclose the schema being used by a development tool. Examiner respectfully disagrees. The specification of the instant application, at [0046], recites that development tools are used to define a system comprised of communicating software and hardware components. This definition reads on the modeling system found in Caswell.

Regarding claim 17, applicants argue that Caswell fails to disclose a system definition of a portion of an application associated with a distributed computing system. As explained above, the network services application of Caswell reads on this limitation.

Further in this section, applicants argue that Caswell fails to disclose a resource definition that describes a behavior associated with the system. Examiner respectfully disagrees. The modeling system of Caswell is used to perform diagnostic operations. See Caswell, col. 8, lines 14 – 30. Diagnostics can be considered a form of behavior analysis, at least as it applies to computer systems.

Applicants further argue that Caswell fails to disclose an endpoint definition that describes communication information associated with the system; and that observation of a thing does not necessarily produce a definition of a thing. While this latter argument has merit, examiner respectfully disagrees. The limitation in question requires only that there be a description of communication information. The cited passage of Caswell (col. 19, lines 11 - 31) discloses such a description.

Regarding claim 23, applicants argue that Caswell fails to disclose a system definition model to enable abstract description of distributed computing systems and distributed applications. The "distributed" aspects of this limitation have been addressed above. Examiner respectfully disagrees with the remainder of this assertion, as well. The system of Caswell does, in fact, gather concrete system information to generate a model of the system; but it also allows for the creation of templates of systems that can be used to design new systems or improve existing systems. This template aspect of Caswell reads on the "abstract description" aspects of this limitation.

Further in this section, applicants argue the lack of disclosure on describing behavior associated with a system. This argument is addressed above.

Applicants further argue that Caswell fails to disclose a schema to dictate how functional operations within the system definition model are to be specified. Examiner respectfully disagrees, and directs applicants to col. 6, lines 2 – 9 of Caswell. This passage discloses, inter alia, the parameters that are specified on how a network entity (or node) is constrained to behave.

Regarding claim 28, applicants' arguments have been addressed above.

Regarding claim 33, many applicants' arguments have been addressed above. Further, applicants argue that Caswell fails to disclose a relationship that identifies ordering relationships between the plurality of definitions. Examiner respectfully disagrees. Caswell, Abstract, discloses the generation of a hierarchical graph of nodes. A hierarchy reads on an ordered relationship. The plurality of definitions are disclosed by Caswell, in that Caswell's graph contains objects that denote nodes of a system. These objects are data structures that define and describe the network node that they represent, and therefore read on the plurality of definitions.

Regarding claim 34, applicants' arguments have been addressed above.

Applicants assert that the dependent claims are allowable if the base claim from which they depend are allowable, but makes no further argument to the allowability of the dependent claims. In light of the above, these claims remain rejected.

Conclusion

5.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NIRAV K. KHAKHAR whose telephone number is (571)270-1004. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Cottingham can be reached on (571) 272-7079. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Miranda Le/   Nirav K Khakhar
Primary Examiner, Art Unit 2169   Examiner
                                                   Art Unit 2167

/nk/